Before the
Federal Communications Commission
Washington, D. C. 20554

In the Matter of   )
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Review of the Emergency Alert System;   )   EB Docket No. 04-296
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To The Commission:

Comments of Sage Alerting Systems, Inc.
In Response To The Third Further Notice Of Proposed Rulemaking

Contents

Introduction

1.   Sage Alerting Systems has been active in EAS and emergency notification and warning since 1994 when the Commission studied ways to improve the delivery of emergency messages to the public via Radio, TV and Cable. During that time, Sage developed the widely used Sage ENDEC which was the first EAS encoder/decoder to receive FCC Part 11 certification. Over the years we have worked closely with the FCC, FEMA and local emergency management agencies to improve the delivery of warnings to the public.

Summary of Comments and Recommendations

We recommend that:

- The legacy EAS system and "daisy chain" be kept in place to act as a backup for CAP.

- The evolving CAP/EAS system not be limited to the capabilities of the legacy EAS system.

- The use of CAP text be required on video crawls when that text is available.

- Legacy EAS not be modified to try to send additional CAP data such as URLs as EAS FSK data.

- The ECIG Implementation Guide be used to define how CAP messages are translated to EAS.

- Broadcasters be required to monitor a CAP source to receive federal IPAWS messages, and state messages if an FCC approved state plan is in place.

- The FCC not write particular access methods or protocols for CAP acquisition into Part 11, instead referencing an appropriate protocol document in the case of IPAWS, and deferring to an FCC approved plan in the case of state/local messages.

- Intermediary Devices be required to pass conformance and certification requirements for proper EAS output, tones, protocols, and procedures.

- The rules not mix what is done with a CAP message vs. how a CAP message is delivered. Rigorously specify what is done with a CAP message, let the market decide how to acquire one, from IPAWS as well as state messages.

- Require certification of CAP compliance, but use the FEMA IPAWS conformity assessment process as the starting point, and to allow the FCC process to accept the 2011 FEMA test report as sufficient for certification of existing devices that have passed that test.

- The CAP 1.2 profile, the IPAWS 1.0 profile, and the ECIG Implementation Guide be accepted as the definition of how to encode and translate CAP messages to EAS.

- The two minute time limit be used for Governors Must Carry alerts.

- The priority scheme be abandoned as obsolete, but continue to require that the EAN message always supersede any other action in progress, and the Governors Must carry be given a priority above other alerts, but below EAN.

- The EAN procedures be simplified, and EAT have no specific role in EAN procedures.

- The Attention Signal rules be simplified so the signal is only used as an audience lead-in to an alert. Keep the frequency specification, lose the other EBS legacy functions. Reduce the duration of the signal for test alerts.

- Alerts received without an EOM be relayed, since alerts relayed immediately (while they are still being received) are always sent anyway, and there may be valid alert content even in a stored message.

- For disabled persons, use the CAP text in the crawl, and use Text to Speech based on that crawl if audio is not available for the alert.

We recommend AGAINST:

- Requiring encoders to originate CAP messages.

- Modifying legacy encoder/decoder hardware interface requirements.

- Extending the 180 day Deadline.

- Over-specifying interface options, such as the presence of an IP port.

- Using Speech to Text.

FNPRM[1] Para 27-28, CAP and EAS.

2.   We agree that, for the next few years at least, CAP messages sent on broadcast outlets and other traditional EAS participants should be viewed in the EAS context. It is important to maintain the concept of automated/unattended station to station relay to get information out when other data networks are unavailable. The slow signaling rate imposed by the SAME protocol does not allow the sending of any of the additional CAP based information, such as description or instruction. The usual case, then, is that a CAP message will always contain more information than can be transmitted in the data of an EAS message.

We do not agree that the transmission of EAS messages derived from CAP messages should be limited to the information available via EAS **when the data from CAP is available**. We will address this at greater length below, but if extended text is available to be placed in a video crawl, or on HD radio data services[2], or via RDS, an EAS Participant should be permitted (or required) to use that information.

The use of the EAS relay network should be viewed as a backup delivery method, useful if no other delivery methods are available and far preferable to no information at all, but the system in its normal, CAP-enabled operating mode should not be limited to the capabilities of the fallback relay method.

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[1] FNPRM refers to the Commission's Third Further Notice of Proposed Rulemaking, May 25, 2011.
[2] Such as iBiquity's Active Radio.

FNPRM Para 29, Direct Jump to CAP System

3.   The largest change since the Second Report and Order is that more than half of the EAS participants have already updated their equipment to handle the reception of CAP messages that are then sent on the air as EAS messages. This has added cost and inertial to the existing system, making it harder to jump to something completely different. However, since the features of a CAP/EAS system are almost identical to those of a CAP-only system, the extension of the life of the legacy EAS system will not slow the adoption of a future CAP-only system. What is seen and heard by the public is also not limited by a combined CAP/EAS system as long as those EAS participants who have direct access to the CAP information can make use of that information – the entire system must not be limited by its lowest common denominator fallback in day to day normal operation.

FNPRM Para 34, Encoding More of the CAP Message in EAS Format

4.   The FCC hints at the desire to encode more of the CAP message in the outgoing EAS message, for example, by including a URL for the audio. While there have been various schemes proposed through the years to add more information to the EAS protocol, they have all been rejected for the same reason – the data portion of the message at the EAS signaling rate of 520 bits per second would take too long. In the specific case of encoding a URL, the URL would only be needed by a receiving EAS station that could not fetch the original CAP message, but that same station is then somehow expected to fetch the audio file via the Internet. This is an unlikely scenario, better served in this case by the monitored station simply supplying the audio as EAS style playback audio in the first place. Sage does not recommend considering any major changes to legacy EAS, or in pursuing any attempts to encode CAP information directly into the EAS data stream.

FNPRM Para 35, ECIG Implementation Guide

5.   We agree that CAP messages should be translated into EAS messages using the ECIG guide, and that any CAP device that translates CAP into EAS for use by FCC regulated EAS participants should be required to show adherence to that

standard. All current CAP/EAS devices have now passed FEMA's conformity assessment test. Future devices should be required to do the same. Intermediary Devices should be required to pass the complete set of tests.

6.   Sage notes that the FEMA EKU/SAIC assessment program is not accepting further applications, and the program is wrapping up in August 2011. We recommend that the FCC work with its Federal partner to assure continued access to a CAP compliance testing program for new CAP/EAS devices with no lapse in coverage. FEMA's original program was run at no cost to the manufactures, which was reasonable based on the amount of joint effort everyone put into the project in protocol design, documentation, the pilot test program, refinements and additions to the test plan, and the final tests; however, Sage sees no need to provide free testing in the future. Accredited test facilities do need to be available, however, both for new manufacturers, and for new products from existing manufacturers.

7.   The benefits of translating CAP messages to EAS for broadcast are clear. The legacy EAS system can continue to be used to relay, through unattended/automated broadcast stations, important safety information. Adherence to a command standard and methodology for rendering a CAP message into EAS is necessary to maintain the integrity of the EAS system, for message validity, and for detection of duplicate messages.

8.   The costs of translation are minimal, and all current CAP systems for broadcast use in the US support the EAS output standard. The cost to broadcasters to output CAP as EAS is only in the time needed to transmit the EAS headers and trailers, usually no more than 20 seconds or so. As these tones also serve as an audience attention getting device, the extra "cost" is minimal.

9.   Do not use a desire for uniformity of presentation to mean that all broadcasters must be limited to a visual display of the EAS canned-text portion of the message only. If additional information is available to the station, it should be permitted to make use of it. See our discussion at Para 32 for examples.

FNPRM Section B.2, CAP Related Monitor Requirements

10.   Since its initial CAP related actions in 2007 and through the Third FNPRM, the FCC has put into motion a program for EAS participants to add CAP capability to the EAS system, with a deadline of September 30, 2011 for broadcasters to be able to receive CAP formatted EAS Alerts. Broadcasters have been taking the rules seriously, and more than half[3] now have equipment installed or on order that will allow them to do so.

11.   Having spent all money, time, and effort getting the industry ready for CAP, the FCC should continue to require its use. However, the FCC should not over-specify exactly how each station will receive CAP messages.

12.   For example, the FCC should require stations to be able to receive federal messages as originated by FEMA. Stations should not be required to connect, through two-way internet, directly to a particular federal server. There are a variety of alternate means that are now, or will soon be, in place. One way satellite delivery using traditional IP services, a data stream carried as part of digital TV signals from a satellite or terrestrial broadcaster, a state provided RF data channel, or a state-provided proxy server are current examples of running or proposed systems.

13.   Likewise, the protocol used to transport CAP messages should not be carved in stone. While RSS, as suggested in the FNPRM in several places is a possible solution, and has been discussed in the past, the current proposed FEMA design is to use ATOM. It is similar to RSS but different, and is of benefit to broadcast users due to its ability to make pre-filtering data available so that the CAP/EAS device can minimize the bandwidth used to poll CAP servers. Comments to a FNPRM are not the best place to hash out technical details. The FCC's rules should set out what needs to be accomplished, while allowing ongoing development of technical specification and best practices to continue in the appropriate venues.

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[3] An estimate of CAP equipment uptake is hard to come by. Sage knows how many it has sold, but not what others are selling. Also unknown is how many stations are taking advantage of the enhanced multi-station options now available. We do know that more sites are using a single CAP/EAS device to run multiple stations now than in 1997. Using our sales, our estimate of multi-station, and older published estimates of our competitors, the number of radio and TV stations with CAP/EAS installed or on order is unlikely to be less than 50 percent and could be much higher.

14.   The flexibility to allow stations at the edges of the network to use cost effective solutions for the acquisition of CAP messages is important.   The FCC should require stations to have equipment allowing them to receive CAP messages, and to actually receive them once they are being sent. The FCC should require stations to receive the Federal messages. The FCC should allow stations, states, and the market, to provide the best reception solution for each particular station.

15.   The FCC is requiring stations to receive and carry messages marked as Governors Must Carry.   That does require a method for getting alerts from the state to each station in that state. Several states already have a CAP distribution system up and running, but few, if any, are currently using RSS (or ATOM). The FCC rules should permit the use of any state system for the distribution of messages, and not require the state to install a distribution system that uses the same format at the federal IPAWS system. Neither should the FCC should require stations to implement any particular protocol at the whim of a state. The rules for CAP reception should look something like this:

1) A station must be able to receive Federal IPAWS messages, either directly, or through a relay or proxy system, such as a state system or a third party system. The station must verify the reception of weekly test messages delivered through the IPAWS system.

2) An EAS Participant must relay a CAP message marked as Governors Must Carry when delivered according to an FCC approved State Plan. Such a plan must allow a station to participate in a state-based delivery system, or allow the station to receive state alerts relayed through the federal IPAWS system using any supported IPAWS access method.

This allows broadcasters to use any of a variety of federal, state, local, or commercial sources for CAP alerts. It requires them to verify that federal CAP messages are being received from that source - FEMA should send an RWT once a week (actually, two RWTs due to the 31 FIPS code limitation). The rules would also allow a state to send messages using whatever system it likes, subject to FCC approval, if the state wants to invoke must carry; but requires the state to be able to send messages to the

IPAWS system for redistribution if there are stations in that state that can't use the state distribution system.

16.   The FCC may feel that it needs to provide some specificity to the method used to deliver IPAWS messages. "RSS Feed" alone isn't sufficient to provide details on how to access CAP messages from automated systems in an efficient manner. Additional specifications are required. Given that this is the case, Part 11 should refer to a document to be published, by FEMA, the FCC, or some other suitable agency, that describes the access method in detail. The document should be referred to by name in Part 11, but not included within Part 11, to decouple the completion of the protocol document from the completion of the FCC report and order. This will also allow the use of a protocol family to be determined by the various stakeholders without requiring an update to Part 11. Further, the FCC should explicitly permit stations to use alternate means of accessing IPAWS messages, and not require a direct connection to the IPAWS server.

FNPRM Para 45, 46 Intermediary Devices

17.   Intermediary Devices should not have been permitted. Considerable time, effort, and dollars have been spent upgrading the EAS system to add CAP capabilities. CAP allows for better delivery, higher fidelity audio, text to speech when audio is not available, matching audio and text (TV video and radio text), and Governors Must Carry. Some of these goals are met by using an Intermediary Device, but some are not. The biggest problem with Intermediary Devices is that the information available to the device that is actually placing the alert on the air is always only the legacy EAS information. While it is desirable to retain legacy EAS capability for times when CAP is not available, an Intermediary Device assures that CAP is never available to the device placing the alert on the air. This permanently degrades the performance of the station with an intermediary device in the following ways:

1) Legacy devices typically only handle one EAS message in memory at a time. As CAP messages can arrive more quickly than EAS can play them back, a legacy device can drop CAP originated EAS messages.

2) EAS legacy devices have no concept of cancelation. An intermediary/legacy combination will sometimes put cancelled CAP messages on the air.

3) The legacy EAS device has no way to receive CAP text from the intermediary device. CAP text is unavailable to video crawl or radio text services equipment if driven by the legacy EAS device.

4) Intermediary devices are not currently required to be Part 11 certified.

18. The biggest problem with an intermediary device is the inability to handle Governors Must Carry, as legacy EAS has no method of denoting a must carry alert. For a broadcast station with an intermediary device to be compliant with the intent of the must carry rule, the FCC would have to add must carry capability to legacy EAS, and that new capability would have to be added to 15 year old legacy devices, some of which are no longer manufactured or supported. Adding that capability to old devices (depending on exact protocol modification) would probably include an update charge from those manufacturers still in business, for devices that are still supported. There would also be a matching change to the EAS support in new CAP/EAS devices, and changes to the certification tests. Everyone will need to make some changes to accommodate the restrictions of the relatively few intermediary devices on the market, and the audiences of stations using intermediary devices will in some cases always receive inferior text information.

19. In FNMRM Para 46, the FCC observes that "these devices would appear to receive a CAP-based alert and encode it into a SAME-formatted message that is fed into the audio input of the EAS Participant's legacy EAS equipment, just as if that message had been received over-the-air from another station". While this is true, the implication is that this is sufficient is not true. If we were willing to accept legacy EAS as the best we can do, there was no need to move to CAP. Legacy EAS is a backup, to be used when CAP isn't available. Stations with true CAP reception can do more. For stations with an intermediary device attached to a legacy device, old style EAS is as good as it will ever get, they will always do less.

20.   Sage feels that if a station chooses to use an Intermediary/Legacy pair to meet its Part 11 requirements, then the pair should be certified to the same standard as a CAP/EAS single box. The current FEMA conformity assessment for Intermediary Devices (Cap Converters) does not pass/fail test for emitting or accepting invalid, expired, or duplicate messages, or for local area recognition. In the normal case, an EAS device would be expected to receive only messages emitted by a Part 11 tested device. Since Intermediary Devices are not Part 11 certified, and are not required to emit valid EAS messages, the legacy device could be subjected to invalid messages, duplicates, expired messages, and out of area messages to a far greater extent that has been possible in the past. This could interfere with the reception of proper messages, especially since legacy devices were required to store only one active message at a time. Sage recommends that the output of an Intermediary Device be tested to the same standards as other EAS devices.

21.   In FNPRM Para 47, the FCC asks if intermediary devices are cost effective. Sage believed they are not, when all the costs are considered. Most of the hidden costs are the continued use of a non-networked device from last century. That device will eventually fail and need to be replaced. If the FCC makes changes to the EAS protocol for the Governors Must Carry, the legacy device may require a ROM-based software update, for which there will very likely be a charge. There is also the larger system cost to be absorbed by all other users of the CAP/EAS system to accommodate the limitations of intermediary devices. As a practical matter, though, due to budget limitations a station may have to choose between a less-desirable hardware solution and total non-compliance. As Intermediary Device products are already on the market, and some have already been purchased, it would be hard to disallow them altogether at this point. It is critical, however, that the FCC not dumb-down the entire system to make up for limitation of some of the parts, in particular, the Must Carry feature and the ability to use CAP text for video crawls and radio text.

FNPRM Para 50, Encoding a CAP Formatted Message

22.   In the general case, broadcasters will not be building CAP messages and sending them to CAP servers. There is limited utility for CAP/EAS devices intended for use at a broadcast station to include CAP origination capability, and therefore no need for the FCC to require it in all Part 11 devices as it would add to the cost and complexity. Such a capability might be of interest in other market segments, such as a county EOC, but those users are outside the FCCs scope.

23.   Based on conversations with broadcasters over the years, Sage believes that broadcasters do not want to be in the alert origination business. Those broadcasters who are currently originating non-test alerts are doing it as a community service because the local emergency officials have no other way to do it. Once CAP is in place and States begin to deploy CAP servers, local officials will have access to far better methods of originating CAP messages.

24.   As the smallest possible CAP message containing EAS is about 13 times larger than a small EAS message, sending a CAP message over a broadcast station with FSK data is not practical.   There is no need to require a Part 11 CAP device to encode native CAP messages.

FNPRM Para 51 and following, Requirements for Encoders and Decoders

25.   While there is a need to tidy up the various encoder and decoder requirements, these are not near-term problems, and can be deferred until such time as the FCC contemplates removing the EAS requirement all together. One example is the deletion of the requirement for a 1200 baud serial port. The market will require continued use of legacy interfaces in cases where a legacy device is required. As practical matter, it is very unlikely that a new manufacturer will appear on the scene to make legacy devices, let alone legacy devices that are incompatible with the legacy systems.

26.   Many of the other requirements are market driven, for example, requiring an IP port. Take the case of a specialty device such as a CAP/EAS device with a built-in satellite receiver. If the manufacturer chooses to not add an IP port, and a user

chooses to buy it for the purpose intended, who are we to say it is a bad idea. As it is extremely unlikely that a CAP receiver intended for sale to the broadcast industry would be built without an IP port, Sage's recommendation is to not over-specify.

FNPRM Para 59, ECIG Guide

27.   Sage agrees with the commission that the ECIG Implementation Guide sufficiently addresses duplicate messages in the EAS domain.

FNPRM Para 60, Non Audio Input EAN

28.   As is done within the CAP protocol, IPAWS profile, and EGIC Implementation Guide, FCC Part 11 needs to separate the concepts of CAP message acquisition, and what is done with the CAP message once it is received. Likewise, separate EAS handling from how the EAS message was received. Sections dealing with CAP or EAS message handling need not refer to how the CAP or EAS message was acquired in the first place. Specific to FNPRM Para 60, the action for an EAN should be the same no matter how it was received.

FNPRM Para 64, Encoder, Decoder, and Intermediary Device

29.   Here, as elsewhere, the FCC should require a combined CAP/EAS device and an Intermediary/Legacy EAS system to do the same thing. As we state elsewhere, unless the capabilities of an Intermediate/Legacy pair have all of the capabilities of a CAP/EAS device, much of the CAP upgrade process will have been wasted. Stations choosing to utilize an Intermediate Device must take the necessary steps to ensure that their audience is served at the minimum level required by Part 11 – that is, timely delivery of emergency messages, whether received as CAP or EAS, making the audio and text information from the message available to the audience. Therefore, if Intermediary Devices are in fact sufficient for CAP/EAS compliance, then the terms could be used interchangeably.

FNPRM Para 69, Monitoring a State/local Source

30.   We agree that a requirement to receive CAP messages should be incorporated in the rules wherever necessary. However, we recommend the FCC not over specify

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the way that stations receive state or local messages, but instead defer to a state plan, developed with input from state participants, and approved by the FCC. This will allow delivery of state messages to evolve from resources available to the state, including CAP servers owned and operated by the state, contracted services from state or national providers, or even relay via the federal IPAWS servers.

FNPRM Para 85, Use of CAP Information to Create a Video Crawl

31.　　The advent of CAP adds a new dimension to alert and warning by providing a more granular, localized and specific message platform as compared to the fixed SAME messages. CAP brings harmony to TV and cable by enabling the same message to be sent both audibly and visually reinforcing the message impact and informing the public.

32.　　For example, assume an Amber alert has been issued via CAP, and received by the TV station from CAP. There are three possible crawls that could be generated:

EAS ONLY:

> The Civil Authorities have issued a Child Abduction Emergency for Allegheny, PA beginning at 4:01 pm Mon May 2 and ending at 5:31 pm Mon May 2 (STN)

CAP ONLY:

> The Pennsylvania State Police have issued an Amber Child Abduction Alert for the Newtown Police Department, Allegheny County. Newtown Police are searching for a light-skinned black female, 6-11 years of age, with hair braided with white beads. Child was seen inside of an older model box-style van, light blue, unknown registration. The vehicle was being operated by a white male in his 40's, with brown hair and a long brown beard. The van was last seen at 1:25 PM today, heading east on North Avenue, near 10th Street in the City of Newtown. Anyone with information about the abduction should immediately contact the police by calling 911.

EAS and CAP:

> The Civil Authorities have issued a Child Abduction Emergency for Allegheny, PA beginning at 4:01 pm Mon May 2 and ending at 5:31 pm Mon May 2 (STN). The Pennsylvania State Police have issued an Amber Child Abduction Alert for the Newtown Police Department, Allegheny County. Newtown Police are searching for a light-skinned black female, 6-11 years of age, with hair braided with white beads. Child was seen inside of an older model box-style van, light blue, unknown registration. The vehicle was being operated by a white male in his 40's, with brown hair and a long brown beard. The van was last seen at 1:25 PM today, heading east on North Avenue, near 10th Street in the City of Newtown. Anyone with information about the abduction should immediately contact the police by calling 911.

33.	The advantage to the public of allowing the TV station to air either CAP or EAS+CAP far outweighs any desire to have viewers of one station see the same message as would the viewers of a station that did not receive the CAP message, or that used an Intermediate device that could not generate the CAP crawl. Part 11 should permit the best information available to be presented to the audience, and not lowest common denominator EAS message.

34.	Sage notes that while each original legacy EAS manufacturer provided the information required by Part 11, they did not provide it in exactly the same way. This has not lead to any outcry from EAS users. What has been an issue, however, is the detailed information that is available in the audio message not present in the video crawl. CAP will allow us to fix that problem, by providing detailed text to match the audio. The ECIG Implementation Guide does specify how to use the various text fields of an EAS message to generate the crawl text. This should provide enough consistency from station to station when the CAP text is available.

FNPRM Section C, EAS Equipment Certification

35.	The Commission asks whether new EAS devices need to be certified or recertified for CAP Compliance. If a device has been part 11 certified and FEMA conformance tested, that should be sufficient. As the Commission knows, Part 11 testing is conducted by third party accredited labs and not directly by the FCC labs. Such can be the case with CAP, IPAWS, and ECIG compliance testing. A number of EAS /CAP devices with Part 11 certification and a passing grade on the FEMA CAP compliance test are now on the market. These units have demonstrated compatibility with the ECIG recommendations adopted by FEMA and the rigorous part 11 environmental and standards based testing.

36.	In FNPRM Para 95, the FCC tentatively concludes that it is inappropriate to include the CAP v1.2 USA IPAWS Profile v1.0 standard into its certification process due to the IPAWs profile including origination standards. However, the IPAWS profile has components for both originators and consumers of the IPAWS profile. The ECIG Implementation guide refers to various portions of the IPAWS Profile in

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its specifications. We note that the final version of the FEMA's conformity assessment program did include tests for message producers that were separate from the tests for message consumers. Understanding how to render CAP messages as EAS requires portions of all three documents, the CAP 1.2 Protocol, the IPAWS Profile, and the ECIG Implementation Guide, and therefore, all three documents should be referenced, and tested for, in any FCC certification efforts.

37.   Sage believes that the most expeditious course of action is for the FCC to permit third party accredited labs to use FEMA's existing test requirements and procedures for future CAP/EAS certification, and that those labs accept the test report and SDOC from the 2011 FEMA conformity assessment as sufficient for the current CAP/EAS devices.

38.   The FEMA tests allowed Intermediary Devices to use a subset of those tests for their conformity assessment. While this did show that the Intermediary device could ingest CAP messages, they may not have shown that a system made up of an Intermediary Device and a legacy EAS system meets all the requirements of part 11. In particular, Intermediary Devices were not pass/fail tested for invalid, expired, or duplicate messages, or for local area recognition. If the intent is to use an Intermediary Device and a legacy device as a pair to meet Part 11 requirements, then the Intermediary Devices should be retested to the full Part 11 output specifications, and the full CAP processing requirements.

FNPRM Section D, 180-Day Reception Deadline

39.   FNPRM Para 110 asks for other external triggers for a termination of the compliance deadline, such as completion of procedures for testing conformance with the EGIC Implementation Guide. We note that the FEMA conformity assessment program did add testing for ECIG in December 2010, and all equipment now on the market passed that test (though Intermediary Devices only used a subset of the test).

40.   FNPRM Para 111. Many of the broadcasters have already acquired equipment or have placed it on order, Sage estimates at least half, possibly as much as 70 percent have done so. Another extension will simply delay orders until near

the end of the new limit, much as the extension in November 2010 halted orders for a few months. We do not believe a further delay for hardware acquisition is desirable or justified. What may be desirable is a period for users to learn the new equipment, for states to work on plans, for FEMA to ramp up the load on the IPAWS servers, etc. We recommend that the FCC continue to require that stations be ready to receive CAP alerts equipment by the current deadline, but allow them to have 90 days after FEMA declares the broadcast distribution component for IPAWS 3.0 ready for use[4] (or December 31, 2011, whichever is later), to actually begin receiving messages from the IPAWS server, and 90 days after a state plan is approved by the FCC to begin receiving State messages. In that way, broadcasters will have equipment on hand when FEMA and/or their state begin sending messages, but broadcasters will have a little extra time to get access to IPAWS and state access shaken out and their staff trained. It will require broadcasters in states with no State relay of IPAWS messages and no third party access to access IPAWS messages from the IPAWS server. Broadcasters who already have access to IPAWS messages through a satellite delivery service will not need to access IPAWS directly, though they may choose to do so for redundancy.

FNPRM Section E, Cap Messages Originated by State Governors

41.   FNMRP Para 116. We agree with the tentative conclusion that Governors Must Carry should apply only to messages so marked using the CAP/IPAWS/ECIG standard. As we have stated elsewhere in our comments, those CAP messages can be delivered to EAS participants in any way specified by the FCC approved state plan, or they can be delivered via the federal IPAWS server. As far as CAP originated Governors Must Carry, the FCC does not need to further specify the format as it is handled in the existing standards.

42.   FNPRM Para 119-121. The major issue with the Governors Must Carry is with EAS relay, and it exposes the major problem with Intermediary Devices. Speaking for Sage legacy EAS devices only, they have no way to be told that the EAS message is from the governor, and therefore no way to effectively interface

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[4] On a recent outreach call, FEMA has said that this capability should be ready to test in August 2011

with the Intermediary Device for the Governors Must Carry function. The legacy model 1822 Sage ENDEC can have a new event code installed in the field by the user changing settings. A new originator code will require a ROM update. Unfortunately, adding an originator code is far more preferable to adding a new Event code. A new event code leads to, "The Civil Authorities have issued a Required Governors Message…", a new originator code results in "The Governor's Office has issued a Radiological Hazard Warning…". We believe the contains important information.

43.   One reasonable interpretation of the FCC's desire is that the must carry rules apply only to CAP messages, and once it is in the EAS domain, the must carry is lost. In this case, Intermediary Devices would not meet the Part 11 requirements in states where must carry is in the state plan.

44.   A second interpretation is that the FCC wants Intermediary Devices to be used. In that case, a new event or originator code MUST be added to the EAS specification, and legacy devices must implement it.

45.   A third interpretation is that the FCC wants the must carry rules to include relay of alerts through the legacy EAS system, if, for example, CAP fails in a particular area, or at a particular station, but the alert must be carried on that station from an EAS relay. In that case, a new event or originator code MUST be added to the EAS specification, and all EAS devices, CAP/EAS and legacy EAS must be updated.

46.   Sage recommends that if the FCC wants intermediary devices, and will change EAS to allow it, a new originator code be added rather than a new event code. Intermediary Devices would only work, in that case, with legacy devices that can be updated in the field to add a new origination code, or with devices that can be updated by ROM to add a new originator code. The less desirable event code option should not be used. The originator code, preserving the additional information in the event code, has the greatest system-wide benefits, though it will cost some number of the stations that chose the Intermediary Device option the cost of the ROM upgrade, but only once their state gets an approved plan to use the must carry feature. The

Intermediary Device problem with Governors Must Carry has been well publicized and the risk of the additional update cost should have been factored in.

47.   In FNPRM Para 121, the FCC asks if the CIV code could be used. It would preclude its use for any other alert, as devices would have to be programmed to relay any message with a CIV event code. The CIV code should not be used for must carry.

48.   In FNPRM Para 127, the FCC seeks comment on geo coding for Governors Must Carry. The ECIG Implementation Guide states that the Must Carry designation only overrides the Event and Originator codes for message selection, the location codes still apply. A Governors Must Carry message can apply to single FIPS code, a list of FIPS codes, or an entire State. It is therefore possible, in the case of the Sage Digital ENDEC and likely all other vendors equipment as well, for a station to select FIPS codes in more than one state, if its coverage area extends to more than one state. The FCC should require EAS participants that serve more than one state to carry Governors Must Carry messages for all areas they serve. The use of the Governors Must Carry is likely to be an unusual event, and not burdensome to the broadcaster.

49.   FNPRM Para 134, time limit on Governors Must Carry messages. Sage believes that the two minute time limit should remain in effect for Governors Must Carry messages. There is a risk involved in not having a mechanism to limit an alert duration for EAS messages, leaving a station in the relay mode if the end of message is missed or not sent. An EAN message is likely to never be sent. In the case of the upcoming live EAN test, procedures are being put in place to operationally mitigate any such problem. The Governors Must Carry messages, while infrequent, are more likely to be issued than an EAN. Two minutes should be sufficient to alert the population and notify them to tune to a full time information sources, or to completely deliver the warning, without the risk of side effects.

50.   FNPRM Para 135 and 136, priority scheme. Sage believes that the current priority scheme in section 11.44 is obsolete; however, the preemption of all other alerts by an EAN rule should remain in effect. We believe a higher priority could be

granted to Governors Must Carry messages. We note, however, that many legacy devices, and new devices derived from them, still use a two minute audio buffer for incoming EAS alerts, and the only way to handle a higher priority EAS message is to abort an outgoing, lower priority message. CAP devices can queue up CAP messages and play them out one at a time. EAS devices can't.

51. FNPRM Para 138, we agree that section 11.51 should be amended to include the Governors Must Carry requirements. There is no practical way for a device to verify that the state plan has been approved. Part 11 should specifically say that a state is not permitted to use the Governors Must Carry provisions in a CAP message unless that state has an approved plan (and likewise, should the FCC decide to modify EAS for must carry, a GOV originator code or event code should only be used once a state plan has been approved). Normal restrictions against improper use of EAS would apply.

FNPRM Section F, EAN

52. There has long been a disconnect between the procedures in the Handbook, the Part 11 Rules, and how an EAN actually works in the field. Sage agrees that it is time to simplify the EAN in Part 11, as well as remove those portions of Part 11 EAN that can be traced all the way back to CONELRAD and are no longer relevant.

53. In our modern times, especially in radio, many stations are unattended by staff capable of manual EAN operation for some portion of the day. EAN procedures that refer to actions that require human assistance are not practical. As currently implemented for unattended operations, and as tested twice in Alaska, an EAN is an EAS message with two special attributes:

1) It takes precedence over all other alerts, terminating other alerts in progress.

2) It has no time limit.

Otherwise, an EAN is handled like any other message[5], including termination of the automatic EAN processing when an EOM is received.

54.   As currently implemented, the EAN will allow the President to get a message to the public with a very short delay, and on more broadcast outlets than a normal press conference. It will allow the President to get a message to the public even if some or all of the normal network broadcast infrastructure is unavailable, or the normal means of covering national news is disrupted. The EAN is not, in and of itself, a way to completely turn over the broadcast infrastructure for a multi-day national repurposing of the airwaves. The EAN can't be used to automatically get all stations to start sending standby scripts.

55.   The EAN rules should be rewritten (and greatly simplified) to more closely match what is possible in the normal case, unattended operation. The FCC's concept of "message by message EAN processing" is the correct approach. The handbook should be updated to match.

56.   As part of the simplification, the EAT message should be clarified as having no particular role in the new EAN processing.

FNPRM Para 178, Attention Signal

57.   We agree that the rules should be updated to remove all uses of the attention signal other than to alert the public. Devices still need to detect the presence of the Attention Signal so that it can be removed from the incoming audio, the definition and accuracy of the tone must be retained in section 11.31(a)(2) and 11.32(a)(9).

58.   The use of the Attention Signal should be maintained –as a notice to the public that something important is about to be heard. To lessen audience fatigue, the length of the signal for required monthly tests could be reduced to two or four seconds, and kept at a maximum of eight seconds for real alerts.

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[5] With the except of special handling of the location code in some cases, to solve the 31 FIPS issue and the lack of an All United States location code.

FNPRM Para 183-184, Retransmission of an Alert Received Without an EOM

59.   There are several reasons for an alert to be received without a proper EOM:

- EOM sent slightly after the two minute limit on a message that lasts exactly two minutes due to minor variations in transmission times, ambiguity in when the two minute time starts and ends, etc. In this case, the entire message is valid.

- EOM not aired due to a hardware or software or human fault at the monitored location. The message is likely to be partially present, followed by return to normal programming. The relayed message will contain part of a message, and part of the monitored station's regular programming (or static, or silence if the source is not a broadcaster).

- EOM not received due to bad reception. In this case, the entire message, though noisy, will be present, followed by static, noisy silence, or a noisy version of the monitored stations regular programming.

60.   In two of these three cases, a valid message is present. In the middle case, some, all, or none of the message may be present. There is no way for the receiving device to tell which is which. Sage equipment does relay the alert. This is to provide consistent results for messages that are relayed in real-time vs. messages that are stored, and relayed at a later time.

61.   In the case of alerts such as a tornado warning, the information is time dependent. Waiting for a message to be received in its entirety and then relayed, would delay the transmission of the alert by as much as two minutes. Many EAS manufacturers can start the relay of an alert as soon as the audio portion of the incoming message starts but before reception of the EOM, reducing delivery latency. These messages will always be relayed, even if an EOM is not received for any of the above reasons. Likewise, Sage plays a stored message, even if an EOM was not received. We interpreted "reset" in the context of 11.33 to mean mute the decoder speaker and return to normal message scanning on the decoder side, but to continue with the normal message handling on the encoder side.

62.   We agree that the FCC should clarify the desired action, which we recommend should be to air the alert as if an EOM had been received at the two minute time limit.

FNPRM Para 189, Persons with Disabilities

63.   CAP/EAS, for the first time, permits originators to send free-form text along with the alert, allowing specific text information to be delivered to the public rather than canned messages with very limited content. This permits an originator to issue alerts where the text matches the audio. FNPRM Para 189 through 195 contain the desire to deliver the same information in the audio and the visual domains, and this is indeed possible if the text is viewed as the primary payload of the CAP message. If the originator provides audio that matches the text, then the EAS participant can deliver matching text and audio. If the originator provides only text, today's technology allows for text to speech of sufficient quality to produce audio that matches the text[6]. Sage does not believe the inverse is true, speech to text, when dealing with any speaker, unknown subject matter, and random background noise.

64.   Most of the message originators we've dealt with generate the text first. If audio is provided, it is of someone reading the text. With the exception of an EAN, a special case, CAP messages intended for EAS broadcast will come with text that matches the audio. Few, if any, alerts will contain live spoken audio with no text.

65.   A match between audio and text is possible only if the FCC permits the use of the CAP text as the crawl, possibly with a lead-in of the EAS-derived boiler plate. Consideration should be given to placing the CAP text first, as it is likely to contain the most useful information.

66.   To reiterate a point we've made elsewhere in these comments, EAS does not have the capability of sending the CAP text as part of the EAS message. Even a short message of 500 characters will take 30 seconds of FSK air time when sent in

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[6] There are limitations with text to speech, primarily in the pronunciation of local area names. There is also a wide variation in the text to speech engines used by various manufacturers. While the level of intelligibility is nearly the same, the rendered audio is very different from each. Some jurisdictions will solve this problem by using a Text to Speech engine at the CAP origination point, or at the CAP server. While the audio is still machine generated, every EAS participant gets the same audio.

the EAS format. The text is available only to EAS participants that can receive it directly from CAP without a CAP to legacy EAS translation occurring first. Even with that limitation, we believe it is critical to allow EAS participants who have that CAP text information to display it.

67.   FNPRM Para 191 discusses a national relay center to assist the disabled in access to alert messages. We note that many of the CAP origination systems now on the market contain public access web pages where current alerts are listed, along with access to the text and the audio.

Other Items

68.   We suggest that the FCC rules prohibit any unauthorized person from sending CAP messages designed to cause a broadcast station to air a EAS alert.

Conclusion

69.   Over the past 15 years, we have seen the deployment and optimization of the EAS system in the US. With the advent of CAP capability, we can see a dramatically improved alert and notification system for the public. We urge the Commission to make the right decisions to insure that the new system is substantially better that the legacy system. We believe that "dumbing down" CAP/EAS would be a mistake and that all equipment must be fully capable of handling ALL alerts including the Governors Must Carry.

70.   We also encourage the Commission to permit alternate CAP distribution to insure that we are not solely dependent on the Internet as a delivery mechanism.

71.   Finally we commend the Commission's diligence and proactive actions to bring a new, extensible and more reliable alert and warning system to the Citizens of the United States.

Respectfully submitted:

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